

PROCESSING OF SHIPBOARD WASTEWATER

ABSTRACT OF THE DISCLOSURE

Incoming wastewater is preheated in a heat exchanger before delivery to a flash chamber through an orifice for flashing into water vapor rising into an upper section of the flash chamber which also has a bottom section into which liquid waste oil or other contaminants settles. Rise of such water vapor into the upper chamber section is induced by a vacuum established therein by a vacuum pump withdrawing the water vapor in a superheated and compressed condition for cooling within a condenser from which the incoming wastewater is delivered to a heat exchanger for preheating. The water vapor during rise into the upper section of the flash chamber is filtered to extract contaminants therefrom while liquefied water vapor thereafter formed therein is collected before the remaining water vapor is cooled into the condensate for collection within a distillate tank from which it is withdrawn for overboard discharge after being monitored for oil content. The waste oil and other contaminants in the flash chamber are also withdrawn for separate collection and storage. Such collections of the condensate extracted from the water vapor, the liquefied water vapor and the waste oil and other contaminants are effected by pumps driven under automatic control. Contaminants at the bottom of the flash chamber may consist of oil, detergents, etc.